

VII. A NEW SPECIES OF DELOCRINUS.

By J. J. BURKE.

(Plate III)

Some years ago, while making a collection of Pennsylvanian invertebrates from the Conemaugh formation in West Virginia, I found some dorsal cups of an interesting little crinoid, apparently representing an undescribed species. Since that time, collections from the same horizon in Pennsylvania have yielded some additional material, and the following description applies to the specimens at hand.

I am indebted to Mr. Sydney Prentice for the drawings from which the illustrations which accompany the description were taken.

CRINOIDEA.

POTERIOCRINIDÆ.

Genus DELOCRINUS Miller and Gurley.

Delocrinus allegheniensis Burke, sp. nov.

(Plate III, Figs. 1-5b.)

Type: A well preserved dorsal cup, C. M. No. 4947. Cat. Foss. Invert.

Paratypes: Three dorsal cups, C. M. Cat. Foss. Invert. Nos. 4945, 4946, 4948, and a dorsal cup with four primaxils, the special anal plate missing and the two radial plates on the right side rather badly weathered, C. M. Cat. Foss. Invert. No. 4949.

Horizon: Ames limestone, Conemaugh formation, Pennsylvanian.

Localities: The type, C. M. No. 4947, and paratypes C. M. Nos. 4945 and 4946 from Painter Hollow, near Wellsburg, West Virginia.

Paratype C. M. No. 4948 from Schenley Park, Pittsburgh, Pennsylvania.

Paratype C. M. No. 4949 from Brilliant Cut-off, Pittsburgh, Pennsylvania.

Dorsal cup small, basin-shaped, base sharply impressed upward within the body cavity. Diameter about three times the height, greatest diameter about two-thirds the height from the base. Plates

smooth, tumid, rather massive, impressed at the corners. Sutures depressed.

Infrabasals apparently small and concealed by the proximal facet for the insertion of the column.

Basals five, equal in size and pentagonal, except for the posterior, which is larger than the others, elongated, hexagonal, and truncated for the reception of the special anal. These plates are a little longer than wide, and sharply incurved below to form the impressed base. In this incurved area each plate has a slight mesial concavity. Beyond this region they are gently convex until the lower extremities of the radials are reached, superior to which place the basals become tumid, bulging outward strongly, their apical sides forming spherical triangles.

Radials five, pentagonal, about one-third wider than high, except for the two flanking the special anal, which lack the width of the other three. At their inception, the radials are less convex than the adjacent portions of the basals, but become quite tumid a little above the midpoint of their height. The upper outer surface of each plate is beveled and concave. Superiorly, the radials are truncated and bear facets for articulation with the primaxils.

The special anal is hexagonal, one-half or less than one-half its total length projecting above the radials. It is a little higher than wide, strongly incurved superiorly, truncates the posterior basal and is inserted between the right and left posterior radials.

Primaxils five, pentagonal, about two-thirds wider than high, their lower surfaces faceted for articulation with the radials and their upper surfaces faceted for articulation with the secundibrachs. They are produced outward to form a rather slender spinous process.

The sutures between the plates of the dorsal cup of *D. allegheniensis* are reminiscent of those found in *D. texanus* Weller, which have been described as "slightly impressed, especially the lateral sutures of the basal plates and at the distal extremities of the same plates."¹ In *D. allegheniensis*, however, the sutures appear to be more deeply impressed than in the latter species, while the corners of the plates show small indentations, considerably deeper than the impressions between the sides of the plates. In the spherical-triangular outline of the apical sides of its basal plates *D. allegheniensis* also resembles

¹Weller, Stuart, "Description of a Permian Crinoid Fauna from Texas." Jour. of Geol., Vol. 17, (1909), p. 627.

D. texanus. On the other hand, the species under discussion is of smaller size than *D. texanus*, does not have the broad basal excavation characteristic of the latter species, has more convex basal and radial plates, is constricted at the summit of the radial plates and has a special anal plate relatively larger than that which occurs in *D. texanus*. In addition to the characters enumerated above, the lack of ornamentation on the dorsal cup, together with the presence of spinous primaxils, should serve to distinguish *D. allegheniensis* from other members of the genus.

MEASUREMENTS.

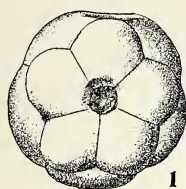
	Type No.	Paratype No.	Paratype No.	Paratype No.	Paratype No.
	4947	4948	4946	4945	4949
Entire height of dorsal cup.	4.9 mm.	3.7 mm.	5 mm.	4.5 mm.	4.8 mm.
Greatest diameter of dorsal cup.	12.4 mm.	11.8 mm.	12.8 mm.	11.6 mm.	14 mm.
Diameter of dorsal cup at summit of radials.	10.8 mm.	10 mm.	12 mm.	10.8 mm.	12 mm. (app.)

EXPLANATION OF PLATE III.

All figures X2.

DELOCRINUS ALLEGHENIENSIS Burke, sp. nov.

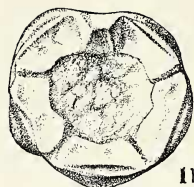
- FIGS. 1, 1a, 1b. Dorsal, lateral and ventral views of a paratype, a worn dorsal cup C. M. No. 4945. Ames limestone, Conemaugh formation, Painter Hollow, near Wellsburg, West Virginia.
- FIGS. 2, 2a, 2b. Dorsal, lateral and ventral views of the type, a well-preserved dorsal cup C. M. No. 4947. Ames limestone, Conemaugh formation, Painter Hollow, near Wellsburg, West Virginia.
- FIGS. 3, 3a. Dorsal and lateral views of a dorsal cup with two primaxils nearly in place. Two other primaxils are contained in the matrix on the ventral side. The special anal plate is missing and the right posterior radial, together with the right anterior radial is badly worn. Paratype C. M. No. 4949. Ames limestone, Conemaugh formation, Brilliant Cut-off, Pittsburgh, Pennsylvania.
- FIGS. 4, 4a, 4b. Dorsal, lateral and ventral views of a paratype, a slightly worn dorsal cup C. M. No. 4946. Ames limestone, Conemaugh formation, Painter Hollow, near Wellsburg, West Virginia.
- FIGS. 5, 5a, 5b. Dorsal, lateral and ventral views of a paratype, a dorsal cup, the ventral side showing wear. C. M. No. 4948. Ames limestone, Conemaugh formation, Schenley Park, Pittsburgh, Pennsylvania.



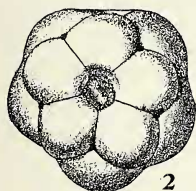
1



1a



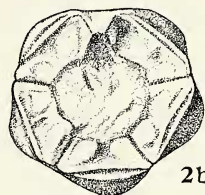
1b



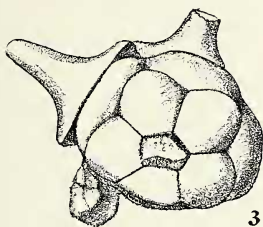
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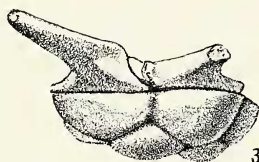
2a



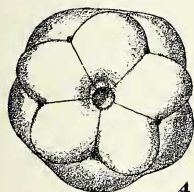
2b



3



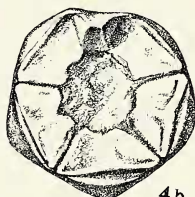
3a



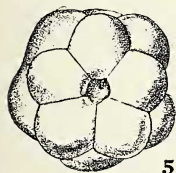
4



4a



4b



5



5a



5b

Delocrinus allegheniensis Burke.